

Serial No.: 10/084,498

Attorney Docket No.: 4481-045

IN THE CLAIMS:**BEST AVAILABLE COPY**

Please amend the claims as follows:

1. (*Currently amended*) A method of measuring parameters of an electronic system by reference to a series of data samples comprising the steps of:

- (a) recovering a clock signal from an input signal received from the electronic system;
- (b) sampling and digitising said recovered clock signal to produce a series of digital clock samples;
- (c) processing said digital clock samples digitally with reference to a local digital reference signal to produce digital baseband frequency in-phase (I) and quadrature (Q) components;
- (d) processing said digital I and Q components to extract digital phase information of said clock signal; and
- (e) processing said digital phase information to determine a parameter of the electronic system; and

controlling the phase of said local digital reference signal in response to extracted phase information as part of a phase-locked loop (PLL).

2. (*Previously presented*) A method as claimed in claim 1, wherein step (c) is implemented using a digital signal down-converter IC of a type suitable for digital radio receiver implementations.

3. (*Previously presented*) A method as claimed in claim 1, wherein the steps (d) and (e) are implemented in a single programmable digital signal processor chip.

4. (*Previously presented*) A method as claimed in claim 1, wherein the network further comprises the step of frequency-dividing said recovered clock signal prior to said sampling step.

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5. *(Previously presented)* A method as claimed in claim 1, wherein the frequency dividing step is performed so as to fix the frequency of the digital clock signal for sampling while measuring recovered clock signals of different frequencies.

6. *(Previously presented)* A method as claimed in claim 1, wherein the processing of said digital clock samples to produce baseband frequency in-phase (I) and quadrature (Q) components comprises splitting said digital clock samples into at least two components and mixing them with respective reference signals derived from a said local digital reference signal.

7. *(Previously presented)* A method as claimed in claim 1, wherein the processing of said baseband frequency I and Q components to extract phase information further comprises the step of filtering and decimating said I and Q components.

8. *(Previously presented)* A method as claimed in claim 1, wherein the step of extracting phase information comprises applying an inverse tangent function to said filtered and decimated I and Q components by digital signal processing.

9. *(Canceled)*

10. *(Currently amended)* A method as claimed in claim 91, wherein the extracted digital phase information is processed into clock jitter data at step (e) by digitally filtering the phase information outside the phase-locked loop.

11. *(Currently amended)* A method as claimed in claim 91, wherein said filtering comprises high-pass digital filtering of the phase information.

12. *(Previously presented)* A method as claimed in claim 11, wherein the filtering further comprises a low-pass digital filter stage additional to that in the phase-locked loop.

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13. *(Previously presented)* A method as claimed in claim 1, wherein said local digital reference signal is an externally sourced timing signal, independent of the received signal.

14. *(Previously presented)* A method as claimed in claim 13, wherein the extracted digital phase information is processed into clock time interval error (TIE) data by filtering this phase information.

15. *(Previously presented)* A method as claimed in claim 14, wherein the filtering comprises low-pass digital filtering of the phase information.

16. *(Previously presented)* A method as claimed in claim 14, wherein the resultant time interval error data is further processed to derive wander data.

17. *(Previously presented)* A method as claimed in claim 1, implemented in a form of hardware switchable between phase-locked and independent reference signals according to the measurement desired.

18. *(Previously presented)* A method as claimed in claim 1, wherein the method is used as pre-processing for a composite measurement comprising at least one of Maximum Time Interval Error (MTIE), Maximum Relative Time Interval Error (MRTIE), Time Deviation (TDEV), Root Mean Square (RMS), and Peak-to-Peak (Pk-Pk), as defined by any ITU standard.

19. *(Previously presented)* A method as claimed in claim 18, wherein said pre-processing and the derivation of said composite measurement are performed within a single digital signal processor.

20. *(Canceled)*